DOCUMENT RESUME

ED 366 722 CE 065 518

AUTHOR Vandegrift, Judith A.; And Others
TITLE Implementing the Vocational Technological Education Model in Arizona. Status Report.
INSTITUTION Arizona State Univ., Tempe. Morrison Inst. for Public Policy.
SPONS AGENCY Arizona State Dept. of Education, Phoenix. Div. of Vocational Technological Education.
PUB DATE Dec 93
NOTE 50p.
PUB TYPE Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Models; *Program Implementation; Secondary Education; Standards; State Aid; *State Programs; Technology Education; *Vocational Education
IDENTIFIERS *Arizona

ABSTRACT

A study examined implementation of the Arizona Vocational Technological Education Curriculum Model, which outlines a comprehensive instructional framework to prepare students for higher education, on-the-job training, and the world of work. A questionnaire customized for each of Arizona's 172 schools with 1 or more state-approved vocational-technological education (VTE) programs was distributed to local vocational directors. Responses from 160 schools (a 93% return rate) indicated that 45% have a comprehensive 3-level model program in at least 1 occupational area. Ninety-two level 1 programs, 989 level 2 programs, and 679 level 3 programs were reported. The most model programs were in the business management technology cluster for level 2 (91 programs) and in trade and industry education for level 3 (269 programs). The number of state-approved programs in each area ranged from 79% in agriculture education to 42% in occupational home economics education. Only 29 of the 52 districts with a comprehensive model program have received VTE funding for implementation of the model. (Appended are the VTE model questionnaire and tables detailing state-approved VTE programs by occupational area, state-funded model sites, and the status of comprehensive VTE model program development.) (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 366 722

IMPLEMENTING THE VOCATIONAL TECHNOLOGICAL EDUCATION MODEL IN ARIZONA

Status Report

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

S Bach

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

BEST COPY AVAILABLE

A report submitted to:

The Arizona Department of Education
C. Diane Bishop, Superintendent of Public Instruction

Division of Vocational Technological Education
David Muehlbauer, State Director for Vocational Education

IMPLEMENTING THE VOCATIONAL TECHNOLOGICAL EDUCATION MODEL IN ARIZONA

Status Report

Prepared by:

Judith A. Vandegrift
Audrey J. Noble
Howard J. Sullivan

Research Analysts

Morrison Institute for Public Policy
School of Public Affairs
Arizona State University

December 1993

TABLE OF CONTENTS

List of Tables ii
List of Figures ii
Abstract iii

OVERVIEW OF THE STUDY 1

TOWARD IMPLEMENTING THE ARIZONA VTE MODEL 3

The VTE Model 3
An Overview of State VTE Programs and Model Sites 4
VTE Model Components Questionnaire 5

LEA PROCEDURES IN CONDUCTING PERFORMANCE STANDARDS EVALUATIONS 11

Performance Standards 11
Performance Standards *Process* Survey 13

RESEARCH AND EVALUATION ACTIVITIES 13

APPENDICES 15

Appendix A: State-Approved VTE Programs by Occupational Area A-1
Appendix B: ADE Funded "Model Sites" (Draft) B-1
Appendix C: Cover Letter and VTE Model Questionnaire (Example) C-1
Appendix D: The Status of Comprehensive (Level I-III) VTE Model Program Development D-1

LIST OF TABLES

Table 1:	Number of Model Programs by Level and Occupational/Cluster Area	7
Table 2:	Number of State-Approved Programs and District-Reported Model Level III Programs by Occupational Area	9
Table A-1:	State-Approved VTE Programs by Occupational Area	A-1
Table B-1:	ADE Funded "Model Sites"	B-1
Table D-1:	Districts/Schools Reporting Comprehensive Programs	D-3
Table D-2:	State-Funded Districts Not Implementing Comprehensive Programs	D-4

LIST OF FIGURES

Figure 1:	Number of Schools Reporting "Model" Programs by Level (N = 160)	6
Figure 2:	Arizona's Performance Standards	12

IMPLEMENTING THE VOCATIONAL TECHNOLOGICAL EDUCATION MODEL IN ARIZONA

Status Report

ABSTRACT

This report describes the research conducted by Morrison Institute for Public Policy, School of Public Affairs, Arizona State University through December 1993 on its contract with the Arizona Department of Education, Division of Vocational Technological Education (VTE) to evaluate implementation of the VTE model.

Morrison Institute researchers developed a questionnaire to determine the self-reported implementation by local educational agencies (LEAs) of model programs at Levels I through III of the VTE curriculum model. The questionnaire, which was customized for each of the 172 Arizona schools with one or more state-approved VTE programs, was distributed to local vocational directors in September 1993. Responses were received for 160 of the 172 schools, a return rate of 93 percent.

The completed questionnaire revealed that 72 of the 160 schools (45 percent) reported that they have a comprehensive (i.e., Levels I through III) model program in at least one occupational area. A total of 92 model Level I programs were reported, either singly or in combination with other levels, while 89 model programs were reported for Level II and 679 for Level III. The most model programs were in the Business Management Technology cluster for Level II (91 programs) and in Trade and Industry Education for Level III (269 programs).

The 679 reported model Level III programs represent 60 percent of the 1,137 state-approved programs on record for FY 1992-93. The percentage of reported model programs in the six occupational areas, relative to the number of state-approved programs in each area, ranged from a high of 79 percent in Agriculture Education to a low of 42 percent in Occupational Home Economics Education.

The total of 52 districts that reported having at least one comprehensive model program exceeds the number of districts (N = 47) funded by VTE over the past four years to implement one or more levels of the VTE model. Twenty-nine of the 52 districts with a comprehensive model program have received VTE funding for implementation of the model, whereas the remaining 23 districts have not.

Procedures and considerations for further research on the current contract are described in the complete report.

IMPLEMENTING THE VOCATIONAL TECHNOLOGICAL EDUCATION MODEL IN ARIZONA

Status Report

OVERVIEW OF THE STUDY

Since 1987, the Arizona Department of Education (ADE), Division of Vocational Technological Education (VTE), has worked steadily toward improving both the quality and accountability of VTE programs in Arizona. Issues of program quality underlie the development and implementation of the "Arizona Vocational Technological Education Curriculum Model." This model represents the state's vision of a comprehensive and coherent instructional framework for preparing students to successfully engage in higher education, on-the-job training, and the world of work.

Concurrently, the state has wrestled with issues of program accountability across all grades and in all areas. For vocational programs, the state has been guided by the Carl Perkins Vocational and Applied Technology Act of 1990 (henceforth the Perkins Act). The 1990 Perkins Act refocused accountability issues *away* from fiscal accountability *toward* student outcomes. ADE's Division of Vocational Technological Education has sought to define and develop student outcome information for VTE programs through its "Performance Standards for Vocational Technological Education."

For fiscal year (FY) 1993-94, ADE's Division of Vocational Technological Education issued a request for a research and evaluation project that would examine information about VTE programs in relation to performance standards data. Additionally, ADE requested assistance in designing long-term strategies for using performance standards to assess the effectiveness of VTE programs, including VTE-model programs. Morrison Institute for Public Policy, School of Public Affairs, Arizona State University, was awarded the contract to work with ADE on these important and timely issues.

Following the explicit goals set by ADE's Division of Vocational Technological Education, Morrison Institute proposed to:

- identify the current status of *all* local educational agencies (LEAs) toward implementing the Arizona model for Vocational Technological Education.
- determine the procedures utilized by *all* LEAs in conducting performance standards evaluations, including the types of academic and occupational assessments used.
- design a research study (for ADE to implement) that would use LEA-reported performance standards information to longitudinally document student outcomes for *all* VTE programs.

- design an evaluation of 1993-94 *VTE-model sites* that utilizes LEA-reported performance standards information and conduct preliminary analyses of model site data using ADE-generated database(s).

This report documents Morrison Institute's scope of work through December 30, 1993 toward meeting the objectives outlined above.

TOWARD IMPLEMENTING THE ARIZONA VTE MODEL

The VTE Model

The Arizona Department of Education's Division of Vocational Technological Education is comprised of four units: Program Services, Program Support, Program Improvement, and Comprehensive Training. This report is concerned primarily with public school programs falling under the auspices of the Program Services Unit. This unit oversees educational training programs in six major occupational areas: Agriculture, Business, Health, Marketing, Occupational Home Economics, and Trade and Industry. Each occupational area has a number of specific program areas; for FY 1992-93, there were 1,137 state-approved programs in 57 areas, excluding Diversified Cooperative Education. (Appendix A has a complete listing of programs for each occupational area.)

Initially referred to as the "Arizona Vocational Technological Education Curriculum Model"[1], the VTE model represents the state's vision of an articulated sequence of instruction for students in grades seven through twelve. The model was defined and developed over a three-year period by ADE/VTE staff in concert with representatives of business and industry, local educational agency (LEA) personnel, and state university staff. It addresses skill development in six curricular strands: thinking skills, applied academic skills, career development skills, life management skills, technology skills, and business economics and leadership skills. These strands are intended to be continuous themes *across occupational areas* and *throughout four levels of instruction* that comprise the VTE model.

- Level I -- ***Technological Explorations and Foundations*** -- targets students in grades 7-9 and is intended to develop core skills in each of the six curricular strands and provide occupational exploration experiences.

- Level II -- ***Technological Core*** -- targets students in grades 9-11 and is intended to enhance core skill development and develop occupational awareness and skills in one or more "occupational clusters" as follows:

    - Applied Biological Systems
    - Business Management Technology
    - Human Services
    - Industrial Technology
    - Information Technology
    - Innovative Cluster (i.e., other).

---

[1] See Snyder, Johnson, DeMuth & Tasker (1992), *Final Report, Model Site Evaluation FY 1991-92*, Tempe, AZ: Arizona State University, Vocational Education (p. 6; Figure 1).

- Level III -- ***Technological Preparation*** -- targets students in grades 10-12 and is intended to reinforce core skills and develop specific occupational competence in one program or more (e.g., horticulture; electronics) offered in the occupational areas of Agriculture, Business, Health Occupations, Marketing, Occupational Home Economics, and Trade and Industry.

- Level IV -- ***Advanced Technology and Retraining*** -- targets postsecondary students and is intended to offer advanced occupational skills training.

An Overview of State VTE Programs and Model Sites

A first step in determining the status of *all* LEAs toward implementing the VTE model was to develop a complete list of LEAs and their state-approved VTE programs. This information was requested from ADE/VTE in July of 1993. Based on information provided for FY 1992-93, Morrison Institute identified:

- 100 districts including 172 schools implementing:
  - 84 Agriculture Education programs,
  - 254 Business Education programs,
  - 38 Health Occupations Education programs,
  - 136 Marketing Education programs,
  - 192 Occupational Home Economics Education programs, and
  - 433 Trade and Industry Education programs, for a total of
  - 1,137 state-approved Vocational Technological Education programs[2].

State appropriations for implementing the VTE model were first made available for the 1990-91 school year. Starting that year, ADE funded "model sites" using a competitive grant process. Proposals were funded that authorized LEAs to implement all three levels of the 7-12 curriculum model (i.e., a "comprehensive program) *or* a Level I, II, or III level program singularly or in combination. LEAs proposed to implement the curriculum model in a variety of programs and in several occupational areas. Beginning in 1993-94, proposals were accepted *only* from LEAs proposing to implement all three levels of the curriculum model in at least one program/occupational area. LEAs were allowed to request funds to implement all three levels of the model, or to implement a particular level of the model needed to supplement an existing program.

---

[2] Figures exclude Diversified Cooperative Education programs; Also *may* exclude districts/schools implementing *only* Level I and/or Level II of the VTE curriculum model.

ADE's history of funding "model sites" indicates that 126 projects have been funded in the past four years (see Appendix B). Funds have been awarded to:

- 47 districts including 82 schools implementing:
  - 39 Level I programs;
  - 36 Level II programs
    (3 Applied Biological Systems, 2 Business Management Technology, 5 Human Services, 4 Industrial Technology, 4 Information Technology, 1 Innovative Cluster, 17 unspecified/unknown);
  - 45 Level III programs
    (3 Agriculture Education programs, 7 Business Education programs, 3 Health Occupations Education programs, 6 Marketing Education programs, 6 Occupational Home Economics Education programs, 10 Trade and Industry Education programs, and 10 unspecified/unknown); and
  - 6 Levels I-III "comprehensive programs."

In sum, over the past four years, ADE funded one or more levels of the model at various sites and in various programs within various occupational areas. Additionally, some districts and schools implemented on their own one or more levels of the curriculum model, in one or more programs, in one or more occupational areas. This blend of curriculum levels, programs, occupational areas, and funding sources created a situation in which no "state-of-the-art" picture of Arizona's progress in implementing the VTE Model was available. Part of Morrison Institute's initial scope of work has been to create this picture.

VTE Model Components Questionnaire

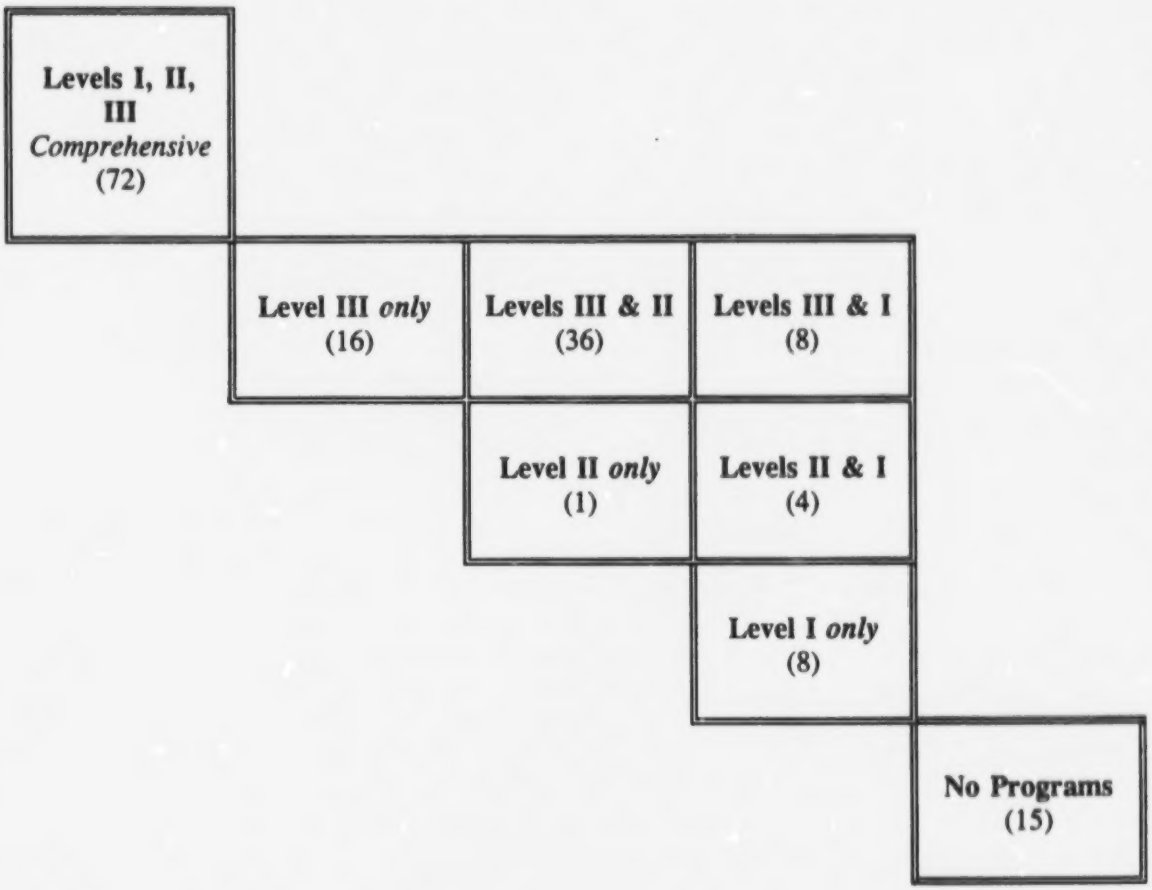
In August and September of 1993, a questionnaire was developed by Morrison Institute researchers in consultation with ADE/VTE program staff. The questionnaire was designed to determine the total number of LEAs that believe they are implementing a model program at each level of the VTE curriculum model (I-III), regardless of whether or not the program was/is state-funded. Surveys were customized for each of the 172 schools with one or more state-approved VTE program, and distributed at a meeting of local vocational directors on September 15, 1993 with a cover letter by the State Director for Vocational Education (see Appendix C).

Questionnaires were mailed to local directors who were not in attendance at the September meeting. Responses were requested by September 30. Multiple contacts were made with local vocational directors through December 1993 by telephone, mail, and electronic communication. Follow-up was conducted both to obtain responses and to request clarification of reported information.

The results of the questionnaire are as follows.

Ninety-four districts responded to the survey (a 94 percent *district* response rate). Among these districts, 160 of 172 schools responded (for a *school* response rate of 93 percent)[3]. The distribution of "model" programs among these 160 schools is presented in Figure 1. As shown in this figure, 72 of the 160 schools responding (45 percent) report implementing a comprehensive program in at least one occupational area. These 72 schools are from 52 of the districts responding (55 percent).

Figure 1. Number of Schools Reporting "Model" Programs by Level (N = 160)



[3] Six districts, including eight schools, did not respond at all to the survey: Benson UHSD (Benson Union High School); Chandler Unified District (Chandler High School, John M. Anderson Junior High School, Willis Junior High School); Gilbert Unified District (Gilbert High School); Grand Canyon Unified District (Grand Canyon High School); and Patagonia UHSD (Patagonia Union High School); and Santa Cruz Valley Unified District (Calabasas School). In addition, the following four schools did not respond: Chaparral High School (Scottsdale Unified District) and Cholla, Rincon, and University High Schools (Tucson Unified).

The total number of model programs reported singularly or in combination is shown by level and occupational/cluster area in Table 1. The table reveals that the 160 schools reported a total of 92 model Level I programs, 289 model Level II programs, and 679 model Level III programs. The number of Level II programs by occupational cluster ranged from a low of 20 for Innovative clusters to a high of 91 for Business Management Technology. The number of Level III programs by occupational area ranged from 28 for Health Occupations Education to 269 for Trade and Industry Education.

Table 1. Number of Model Programs by Level and Occupational/Cluster Area

LEVEL	TYPE OF PROGRAM		TOTAL # OF PROGRAMS REPORTED[a]
Level I	***Technological Explorations/Foundations***		**92**
Level II	***Technological Core***		**289**
	▸ Applied Biological Systems	21	
	▸ Business Management Technology	91	
	▸ Human Services	34	
	▸ Industrial Technology	78	
	▸ Information Technology	45	
	▸ Innovative Cluster	20	
Level III	***Technological Preparation***		**679**
	▸ Agriculture Education	66	
	▸ Business Education	165	
	▸ Health Occupations	28	
	▸ Marketing Education	71	
	▸ Occupational Home Economics	80	
	▸ Trade and Industry Education	269	

[a] The table shows the number of model programs reported singularly or in combination. Because a district or school can offer only one Level I exploratory program but more than one Level II and Level III programs, the number of Level II and III programs exceeds the number of schools reporting.

An analysis of state-approved vocational training programs from 1992-93 and of district-reported model Level III programs from 1993-94 is shown by occupational area and program area in Table 2. The table reveals that there were 1,137 state-approved programs in FY 1992-93 and that districts reported 679 model Level III programs in 1993-94, 60 percent of the 1992 state-approved program total. The numbers of district-reported model Level III programs by occupational area and the percentage of 1992-93 state-approved programs that each number represents are as follows:

- Agriculture Education -- 66 model programs (79 percent of the total number of programs);
- Business Education -- 165 model programs (65 percent);
- Health Occupations Education -- 28 model programs (74 percent);
- Marketing Education -- 71 model programs (52 percent);
- Occupational Home Economics Education -- 80 model programs (42 percent); and
- Trade and Industry Education -- 269 model programs (62 percent).

Table 2. Number of State-Approved Programs and District-Reported Model Level III Programs By Occupational Area

OCCUPATIONAL AREA	PROGRAM AREA	TOTAL STATE-APPROVED PROGRAMS (FY 1992-93)	DISTRICT-REPORTED MODEL PROGRAMS (FY 1993-94)	
			Number	% Total State-Approved
Agriculture Education	Agriculture Business/Management	64	51	80
	Agriculture Mechanic	7	6	86
	Horticulture	8	5	63
	Renewable Natural Resources	5	4	80
	Total Agriculture	***84***	***66***	***79***
Business Education	Accounting/Computing Occupations	81	48	59
	Administrative Support Cler/Sec	147	109	74
	Business DP Occupations	26	8	31
	Total Business	***254***	***165***	***65***
Health Occupations Education	Health Assisting	21	15	71
	Nursing Assistant	16	12	75
	Practical Nurse	1	1	100
	Total Health Occupations	***38***	***28***	***74***
Marketing Education	Entrepreneurship	72	21	29
	Financial Services Marketing	1	0	0
	Floristry Marketing	1	1	100
	Food Marketing	1	1	100
	General Marketing	54	42	78
	Hospitality Marketing	7	6	86
	Total Marketing	***136***	***71***	***52***
Occupational Home Economics Education	Child Care and Guidance	48	33	69
	Clothing, Apparel & Textiles	41	16	39
	Food Production Management/Service	65	25	38
	Home Furnishings & Equipment Mgt	19	3	16
	Institutional Home Management & SS	19	3	16
	Total Home Economics	***192***	***80***	***42***

-- continued on next page

Table 2. Number of State-Approved Programs and District-Reported Model Level III Programs By Occupational Area -- *continued*

OCCUPATIONAL AREA	PROGRAM AREA	TOTAL STATE-APPROVED PROGRAMS (FY 1992-93)	DISTRICT-REPORTED MODEL PROGRAMS (FY 1993-94)	
			Number	% Total State-Approved
Trade and Industry Education	Aircraft Mechanic	2	1	50
	Auto Body Repair	14	11	79
	Auto Mechanics	84	62	74
	Building Maintenance	9	3	33
	Building Trades	46	36	78
	Cabinetmaking	19	10	53
	Carpentry	22	7	32
	Comm/Electronics	9	6	67
	Commercial Art	12	10	83
	Commercial Photography	17	10	59
	Computer Electronics	7	0	0
	Construction Equipment Operator	2	1	50
	Cosmetology	19	12	63
	Culinary Arts	8	3	38
	Diesel Mechanics	2	1	50
	Drafting	41	26	63
	Electrical Equipment Repair	6	3	50
	Electrical Trades	6	1	17
	Fire Fighting/Prevention	4	3	75
	Furniture Making	2	2	100
	Graphic Arts	16	13	81
	Heating, Air Conditioning & Refrigeration	3	2	67
	Industrial Electronics	1	1	100
	Jewelry Design, Fabrication & Repair	2	0	0
	Law Enforcement	2	1	50
	Machine Shop	17	6	35
	Marine Maintenance	1	0	0
	Masonry	2	2	100
	Plumbing	3	1	33
	Radio TV Production	12	10	83
	Sheet Metal	2	0	0
	Small Engine Repair	2	1	50
	Tech Theater Design	2	1	50
	Truck & Bus Driving	1	1	100
	Upholstering	2	2	100
	Welding	34	20	59
	Total Trade and Industry	***433***	***269***	***62***
6 Occupational Areas	**57 Program Areas**	**1,137 State-Approved Programs**	**679 "Model" Programs Reported**	**60% of Total State-Approved**

The number of districts (52) that report a comprehensive program is greater than the number (47) of districts funded by ADE/VTE over the past four years to implement one or more levels of the VTE curriculum model. Twenty-nine of the 52 districts with a comprehensive program received VTE funding, whereas the remaining 23 districts did not. Conversely, 18 of the 47 funded districts report that they do not currently have a comprehensive program. Appendix D contains a listing of the districts with comprehensive programs and the funded districts without a comprehensive program.

To summarize, Morrison Institute researchers have collected and summarized comprehensive data regarding the current status of all LEAs toward implementing the VTE model. There are several ways in which to proceed with the collection of more data regarding model implementation. As originally proposed, Morrison Institute planned to sample programs from each occupational area regarding ADE-developed "Program Characteristics" for fully implemented model programs. Based on the results from the initial questionnaire, however, this may not be the best strategy to yield useful information for ADE/VTE because of the high number of LEAs/schools reporting at least one VTE-model program. An alternative approach would be to conduct follow-up with *non-model* sites to determine which of the "Program Characteristics" pose problems in implementation. Options for pursuing further data collection will be discussed with ADE/VTE staff.

LEA PROCEDURES IN CONDUCTING PERFORMANCE STANDARDS EVALUATIONS

Performance Standards

In accordance with the Perkins Act of 1990, ADE's Division of Vocational Education developed "Performance Standards" (Figure 2) to measure student outcomes with reference to occupational training programs. ADE/VTE developed a comprehensive manual and teacher's guide for implementing these standards which ask districts to report on student performance in four categories:

- competency gains in the achievement of basic and more advanced academic skills;
- occupational competency attainment;
- high school enrollment/graduation; and
- postsecondary training or education, military service or employment.

Beginning with the FY 1992-93 school year, districts/schools were to complete new performance standards reports which were due to ADE/VTE on September 15, 1993. In addition, district appointed Local Evaluation Coordinators were to submit local program improvement plans intended to address any weaknesses indicated by their 1992-93 performance standards data.

Figure 2. Arizona's Performance Standards

MEASURE 1. Demonstrate competency gains, including student progress, in the achievement of basic and more advanced academic skills.

STANDARD 1.1: All of the course completers who do not possess the identified skills at the beginning of the course/program will demonstrate gains in the achievement of the related *basic academic skills* associated with the course/program. The student's course/program may be modified through an Individual Vocational Education Plan (IVEP).

STANDARD 1.2: All of the course completers who do not possess the identified skills at the beginning of the course/program will demonstrate gains in the achievement of the *more advanced academic skills* associated with the course/program. The student's course/program may be modified through an IVEP.

MEASURE 2. Demonstrate occupetional competency attainment.

STANDARD 2.1: Eighty percent (80%) of the course completers will demonstrate attainment of at least eighty percent (80%) of the occupational competencies/tasks associated with the course. The student's course/program may be modified through an IVEP.

STANDARD 2.1: One hundred percent (100%) of the program completers will demonstrate attainment of at least eighty percent (80%) of the occupational competencies/tasks associated with the course. The student's course/program may be modified through an IVEP.

MEASURE 3. Continue attending or complete secondary school.

STANDARD 3.1: Ninety percent (90%) of the students who enroll in a course which is part of an approved vocational technological program will continue attending/complete secondary school.

MEASURE 4. Placement into additional training or education, military service, or employment.

STANDARD 4.1: Ninety percent (90%) of the students completing an approved vocational/technological program will be placed into additional training or education in an accredited private or public postsecondary institution, military service, or employment.

Approved by the Arizona State Board for
Vocational Technological Education

April 27, 1992

Performance Standards *Process* Survey

For the purposes of this research project, ADE/VTE requested an assessment of the processes used by districts/schools in completing the performance standards reports. Morrison Institute project staff proposed to design a survey regarding processes used in completing performance standards reports.

Prior to developing this survey, Morrison Institute project staff met with a member of the ADE/VTE staff who shared program improvement plans from four districts. A review of the LEA plans indicated that they generally would provide very little useful information that could inform the development of the survey. Currently, Morrison Institute project staff are in the process of developing the performance standards process survey for distribution in early 1994, pending a review of the instrument by ADE/VTE staff.

Morrison Institute researchers have been pursuing several lines of research related to performance standards. Other state plans for assessing VTE student outcomes are being investigated, and profiles of these states will be developed for inclusion in a final project report. Additionally, researchers are documenting the linkages between the Perkins Act of 1990 and the current Elementary and Secondary Act (ESEA) reauthorization legislation, as this proposed legislation has significant implications for student programming and assessment as a whole. In developing research strategies for ADE/VTE, Institute researchers are cognizant of the need to align VTE procedures with other national and state mandates.

Morrison researchers also are investigating linkages between the Arizona State Assessment Program (ASAP) and ADE/VTE student assessment procedures. Specifically, researchers are examining how VTE programs might use ASAP measures of students' academic performance to meet the intent of Arizona's Performance Standards 1.1 and 1.2. How districts/schools are currently incorporating ASAP will be one subject of investigation on the upcoming performance standards survey.

RESEARCH AND EVALUATION ACTIVITIES

Two other activities are the subject of this project:

- to design a research study (for ADE to implement) that would use LEA-reported performance standards information to longitudinally document student outcomes for VTE programs.

- to design an evaluation of 1993-94 *VTE-model sites* that utilizes LEA-reported performance standards information and conduct preliminary analyses of model site data using ADE-generated database(s).

Project staff preliminarily have explored the development of a longitudinal study using performance standards data. Researchers are currently investigating options for multi-year analyses that take into account the variability in performance standards measurement and reporting across districts. That is, standards in many districts currently are not based on uniform and/or consistent measures of student outcomes or on individual student performance.

APPENDICES

APPENDIX A

STATE-APPROVED VTE PROGRAMS BY OCCUPATIONAL AREA

Table A-1. State-Approved VTE Programs by Occupational Area[1]

OCCUPATIONAL AREA	PROGRAMS	# STATE-APPROVED PROGRAMS
Agriculture Education	Agriculture Business/Management	64
	Agriculture Mechanic	7
	Horticulture	8
	Renewable Natural Resources	5
	Total Agriculture	***84***
Business Education	Accounting/Computing Occupations	81
	Administrative Support Cler/Sec	147
	Business DP Occupations	26
	Total Business	***254***
Health Occupations Education	Health Assisting	21
	Nursing Assistant	16
	Practical Nurse	1
	Total Health Occupations	***38***
Marketing Education	Entrepreneurship	72
	General Marketing	54
	Financial Services Marketing	1
	Floristry Marketing	1
	Food Marketing	1
	Hospitality Marketing	7
	Total Marketing	***136***
Occupational Home Economics Education	Child Care and Guidance	48
	Clothing, Apparel & Textiles	41
	Food Production Management/Service	65
	Home Furnishings & Equipment Mgt	19
	Institutional Home Management & SS	19
	Total Home Economics	***192***

-- continued on next page

[1] Taken from the Arizona Department of Education, Vocational Education, *Report of Preparatory Programs by School (FY 1992-93).*

Table A-1. State-Approved VTE Programs by Occupational Area -- *continued*

OCCUPATIONAL AREA	PROGRAMS	# STATE-APPROVED PROGRAMS
Trade and Industry Education	Aircraft Mechanic	2
	Auto Body Repair	14
	Auto Mechanics	84
	Building Maintenance	9
	Building Trades	46
	Cabinetmaking	19
	Carpentry	22
	Comm/Electronics	9
	Commercial Art	12
	Commercial Photography	17
	Computer Electronics	7
	Construction Equipment Operator	2
	Cosmetology	19
	Culinary Arts	8
	Diesel Mechanics	2
	Drafting	41
	Electrical Equipment Repair	6
	Electrical Trades	6
	Fire Fighting/Prevention	4
	Furniture Making	2
	Graphic Arts	16
	Heating, Air Conditioning & Refrigeration	3
	Industrial Electronics	1
	Jewelry Design, Fabrication & Repair	2
	Law Enforcement	2
	Machine Shop	17
	Marine Maintenance	1
	Masonry	2
	Plumbing	3
	Radio TV Production	12
	Sheet Metal	2
	Small Engine Repair	2
	Tech Theater Design	2
	Truck & Bus Driving	1
	Upholstering	2
	Welding	34
	Total Trade and Industry	***433***
6 Occupational Areas	**57 Program Areas**	**1,137 State-Approved Programs**

APPENDIX B

ADE FUNDED "MODEL SITES"

(DRAFT)

Table B-1. ADE Funded "Model Sites" (DRAFT)[a]

District/School Name	1990-91	1991-92	1992-93	1993-94[b]
Agua Fria UHSD				
• Agua Fria Union HS	Level III (Bldg Trades/Constr)			
Amphitheater Unified				
• Cross Middle School			Level I (Life Management)	
• Amphitheater HS	• Level II Core • Level III (Hospitality)			
• Canyon del Oro HS	• Level III (Marketing) • Comprehensive (Levels I-III)	Level II Core		
Benson UHSD				
• Benson Union HS		Level III	• Level II (App. Bio. Systems) • Level III (Drafting)	
Blue Ridge Unified				
• Blue Ridge Junior HS	Level I Exploratory			
• Blue Ridge HS			Level II (Info/Comm Tech.)	• Food Services (Level II) • Graphic/Comm Art (Level III)
Buckeye UHSD				
• Buckeye Union HS		Level I Exploratory	Level III (Biotechnology)	
Camp Verde Unified				
• Camp Verde HS		Level II Core	Level I Exploratory	
Casa Grande Elementary				
• Casa Grande Junior HS		Level I Exploratory		
Cave Creek Unified				
• Desert Arroyo Middle School	Level I Exploratory			

[a] This table documents, in draft form, the history of ADE funding for district implementation of the VTE curriculum model. Sources of information are listed following the table.
[b] Although ADE funded only LEAs proposing to implement a comprehensive (i.e., Level I - III) program in FY 1993-94, applications could be for one level or more as needed to supplement an existing program. Levels funded to complete a comprehensive program are indicated in this column.

Table B-1. ADE Funded "Model Sites" (DRAFT) -- *continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Colorado City Unified				
• Colorado City HS		Level III	Level III (Marketing)	
• Colorado City Vocational Center			Level I Exploratory	
Coolidge Unified				
• Coolidge HS				Child Care & Guid (Level III)
Deer Valley Unified				
• Deer Valley Middle School		Level I Exploratory		
• Desert Sky Middle School		Level I Exploratory		
• Hillcrest Middle School	Level I Exploratory			
• Barry Goldwater HS				Human Services/Health (Level II)
• Deer Valley HS				Human Services/Health (Level II)
• Deer Valley Vo-Tech	• Level III (Health Occupations) • Level III (Travel/Tourism)	Level III	Level III (Health Occupations)	
Dysart Unified				
• Dysart Junior HS	Level I Exploratory	Level I Exploratory		
• Dysart HS	• Level II Core • Comprehensive (Levels I-III)	Level II Core		
Eloy Elementary District				
•Eloy Junior HS			Level I Exploratory	
Flagstaff Unified				
• Flagstaff Junior HS		Level I Exploratory		
• Coconino HS			Level II (Industrial Tech.)	Electronics (Level III)

Table B-1. ADE Funded "Model Sites" (DRAFT) -- *continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Flowing Wells Unified •Flowing Wells HS		Level I Exploratory	• Level I (Life Management) • Level II (App Bio. Systems) • Level III (Horticulture)	Horticulture (Levels I-III)
Gilbert Unified • Gilbert HS	Level III (Business Education)			
Glendale UHSD • Apollo HS • Greenway HS • Independence HS • Sunnyslope HS			Level II (Bus/Management Tech.) • Level III (Accounting) • Level III (Marketing)	Administrative Support (Level I) Administrative Support (Level III)
Globe Unified • Globe HS		Level III		
Humboldt Unified • Bradshaw Mountain HS		Level III		
Marana Unified • Tortolita Junior HS • Marana HS • Mountain View HS	Level III (Business Education)		Level I (Life Management)	Food Services (Level III)
Maricopa Unified • Maricopa HS	Level II Core			

Table 1. ADE Funded "Model Sites" (DRAFT) -- *continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Mesa Unified				
• Red Mountain HS	Level II Core		Level III (Administrative Support)	
Mohave UHSD				
• Kingman HS	Level II Core		Level I Exploratory	Video Production (Level III)
Page Unified				
• Page HS			Level II (Bus/Management Tech.)	
Paradise Valley Unified				
• Desert Shadows Middle Sch.	Level I Exploratory			
• Shea Middle School			Level I (Life Management)	
• Sunrise Middle School	Level I Exploratory			
• Vista Verde Middle School			Level I (Life Management)	
• Horizon HS			Level III (Child Care & Guid)	
Pendergast Elementary District				
• Villa de Paz			Level I Exploratory	
Peoria Unified				
• Cactus HS			Level III (Food Prod. & Srvs.)	
• Centennial HS	Level II Core			• Marketing (Level III) • Drafting (Level III)
• Copperwood School			Level I (Life Management)	
• Ironwood HS		Level II Core	Level II (Industrial Tech.)	• Health Careers (Level III) • Acct/Comp Occ (Level III)
• Peoria HS				Health Careers (Level III)

Table 1. ADE Funded "Model Sites" (DRAFT) -- *continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Phoenix UHSD				
• Trevor Browne	Level II Core			
• MetroTech	Level III (Fashion Technology)	Level III	Level III (Administrative Support)	
Queen Creek Unified				
• Queen Creek HS	Level II Core		• Level II (App. Bio. Systems) • Level II (Life Management)	• Child Care & Guid (Level III) • AG Bus/Mgt (Level III)
Red Mesa Unified				
• Red Mesa HS			Level II (Info/Comm Tech.)	Graphic/Comm Art (Level I)
Round Valley Unified				
• Round Valley HS				AG Bus/Mgt (Levels I-III)
Santa Cruz UHSD				
•Santa Cruz Union HS			Level I (Exploratory)	
Scottsdale Unified				
• Cocopah Middle School		Level I Exploratory		
• Mohave Middle School	Level I Exploratory			
• Mountainside Middle School			Level I Exploratory	
• Supai Middle School			Level I (Life Management)	
• Coronado HS	Level II Core	Level II Core		
• Scottsdale Vo-Tech	Comprehensive (Levels I-III)			
Show Low Unified				
• Show Low Junior HS			Level I Exploratory	

Table 1. ADE Funded "Model Sites" (DRAFT) -- *continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Sierra Vista Unified				
• Buena HS			Level II (Other/Innovative)	
Snowflake Unified				
• Snowflake HS			• Level II (Info/Comm Tech.) • Level II (Life Management)	
St. David Unified				
• St. David HS			Level I Exploratory	
St. Johns Unified				
• St. Johns Middle School	Level I Exploratory			Building Trades (Levels I-III)
Sunnyside Unified				
• Desert View HS			• Level II (Industrial Tech.) • Level III (Drafting)	
• Sunnyside HS		Level III	Level III (Marketing)	Auto Mechanics (Level II)
Superior Unified				
• Roosevelt Junior HS	Level I Exploratory			
Tempe UHSD # 213				
• McClintock HS			Level II (Information Tech.)	
Thatcher Unified				
• Thatcher Middle School			Level I Exploratory	
Tuba City Unified				
• Tuba City Junior HS			Level I (Life Management)	
• Tuba City HS		Level III	Level II (Life Management)	

Table 1. ADE Funded "Model Sites" -- *continued*

District/School Name	1990-91	1991-92	1992-93	1993-94
Tucson Unified				
• Carson Middle School		Level I Exploratory		
• Catalina HS	Level III (CAD)	Level III		
• Santa Rita HS		Level II Core		
Valley UHSD				
• Elfrida HS	Level III (AG Bus/Management)	Level III		
Wickenburg Unified				
• Wickenbury HS		Level II Core		
• Vulture Peak School			Level I Exploratory	
Williams Unified				
• Williams HS		Level II Core		
SUMMARY INFORMATION	**31 projects in 20 LEAs were funded including:** 9 Level I (9 schools; 8 LEAs) 9 Level II (9 schools/LEAs) 10 Level III (10 schools; 8 LEAs) 3 Levels I-III (3 schools/LEAs)	**27 projects in 21 LEAs were funded including:** 9 Level I (9 schools/LEAs) 8 Level II (8 schools/LEAs) 10 Level III (10 schools/LEAs) 0 Levels I-III	**48 projects in 32 LEAs were funded including:** 19 Level I (19 schools; 17 LEAs) 16 Level II (16 schools; 14 LEAs) 13 Level III (12 schools; 11 LEAs) 0 Levels I-III	**20 projects in 14 LEAs were funded including:** 2 Level I (2 schools/LEAs)* 3 Level II (4 schools; 3 LEAs)* 12 Level III (10 schools; 8 LEAs)* 3 Levels I-III (3 schools/LEAs) * Levels funded to supplement existing programs; *All* 1993-94 programs are intended to be *comprehensive*.

Sources of Information for Table B-1[1]

▸ 1990-91:

- "Vocational/Technological Education 1990-91 Model Sites Funding" (02/07/91) [ADE printout]
- "Vocational/Technological Education Model Sites Fiscal Year 1991" (08/20/91) [ADE printout]

▸ 1991-92:

- Snyder, L., Johnson, M., DeMuth, L. & Tasker, J. (1992). *Model Site Evaluation FY 1991-92*. Tempe, AZ: Arizona State University, Vocational Education.

▸ 1992-93:

- "1992-93 Model Sites" (01/27/93) [ADE printout]
- ADE copies of district funding applications
- DeMuth, L. & Tasker, J. (1993). *Final Report: Arizona Vocational/Technological Comprehensive Program Evaluation FY 1993*. Tempe, AZ: Arizona State University, Department of Vocational Education.

▸ 1993-94:

- ADE copies of district funding applications

[1] Please note that sources used to prepare this summary contained different levels of program/funding detail and that specific types of information still need to be gathered to ensure consistency in reporting.

APPENDIX C

COVER LETTER
AND
VTE MODEL QUESTIONNAIRE (Example)

DATE: September 15, 1993

TO: Local Vocational Administrator

FROM: Richard Condit
Associate Superintendent and State Director
for Vocational Technological Education

RE: SURVEY ON STATEWIDE STATUS OF MODEL IMPLEMENTATION

The ADE Division of Vocational Technological Education has contracted with the Morrison Institute for Public Policy at Arizona State University to assess the status of *all* local educational agencies in Arizona regarding their implementation of the Arizona Model for Vocational Technological Education (Levels I - III). As you are undoubtedly aware, over the past several years ADE has funded one or more levels of the Model at various sites and in various programs within various occupational areas. Additionally, some districts/schools have implemented one or more levels of the Model, in one or more areas, on their own.

Because of the blend of levels, programs, occupational areas, and funding sources, there is no current "state-of-the-art" picture of Arizona's progress in implementing the VTE Model. Part of Morrison's responsibility during the coming year is to assist the Division in creating this picture.

Attached to this letter you will find a list of your district's approved or provisionally approved VTE programs -- **by school**. These are the programs on record at ADE. Following the directions on the form, please complete one form per school and return no later than September 30 to Morrison Institute. This information is essential for the Institute in planning a more comprehensive survey of Model implementation.

Thank you in advance for participating in this project.

VTE MODEL COMPONENTS QUESTIONNAIRE

The purpose of this questionnaire is to determine which levels (I-III) of the Vocational-Technological Education Model you are currently implementing. Your identification of Model levels at your site will be used to determine your eligibility to participate in a more extensive survey regarding VTE Model implementation. Your candid responses to these questions are appreciated.

Level I: As defined by the Arizona Department of Education, Division of Vocational-Technological Education, a Level I sequence of instruction is designed for students in grades 7-9. Level I (**Technological Explorations/Foundations**) provides occupational exploration experiences for all students.

For FY 1993-94, do you have one or more courses in place which you believe meet the ADE criteria for a Level I experience?

____YES ____NO

Level II: As defined by the Arizona Department of Education, Division of Vocational-Technological Education, a Level II sequence of instruction is designed for students in grades 9-11. Level II (**Technological Core**) exposes students to one or more occupational clusters.

For FY 1993-94, do you have one or more courses in place which you believe meet the ADE criteria for a Level II experience?

____YES ____NO

If YES, place a check mark (✓) in the appropriate box to indicate which occupational clusters are part of your Level II curriculum.

Occupational Cluster	(✓)
Applied Biological Systems	
Business Management Technology	
Human Services	
Industrial Technology	
Information Technology	
Other/Innovative Cluster	

--- OVER ---

VTE MODEL COMPONENTS QUESTIONNAIRE -- *continued*

for

AN ARIZONA HIGH SCHOOL

Level III: As defined by the Arizona Department of Education, Division of Vocational-Technological Education, a Level III sequence of instruction is designed for students in grades 10-12. Level III **(Technological Preparation)** provides students with specific occupational training. ADE records indicate that the following vocational-technological programs are conducted at your school.

For each program, please indicate whether or not you have one or more courses in place that you believe meet the ADE criteria for a Level III Model program. Also, please add any programs you *are* implementing that are not on the list.

PROGRAM	DO consider this program a Level III Model program?		Do not have program
	Yes	No	
ACCOUNT/COMPUT OCCUP			
ADMIN SUP CLER/SEC			
ENTREPRENEURSHIP			
GENERAL MARKETING			
COSMETOLOGY			
HEALTH ASSISTING			
NURSING ASSISTANT			
CHILD CARE & GUIDE			
CLOTH APPAREL & TEXT			
FOOD PROD MGMT/SERV			
HOME FURN & EQUIP MG			
INSTIT HOME MGT & SS			
BUILDING TRADES			
COMPUTER ELECTRONICS			
AUTO MECHANICS			
DRAFTING			
Other?			

Whom may we contact for additional information, if required?

Contact Person:_____

Telephone Number:_____

PLEASE RETURN THIS FORM IN THE ENCLOSED SELF-ADDRESSED STAMPED ENVELOPE NO LATER THAN SEPTEMBER 30. **THANK YOU!**

Morrison Institute for Public Policy
September 1993

APPENDIX D

THE STATUS OF COMPREHENSIVE VTE MODEL (LEVEL I-III) PROGRAM DEVELOPMENT

THE STATUS OF COMPREHENSIVE VTE MODEL (LEVEL I-III) PROGRAM DEVELOPMENT

- Table D-1 lists the 72 schools and their respective districts reporting that they are implementing a comprehensive VTE model program. Seven of these 72 schools are middle or junior high schools affiliated with a high school. Schools with an asterisk have received state funding for model implementation for one year or more since FY 1990-91.

- Table D-2 lists districts who have received state funding for model implementation for one year or more since FY 1990-91, but which have not yet implemented a comprehensive VTE model program.

Table D-1. Districts/Schools Reporting Comprehensive Programs

	DISTRICTS (N = 52)	SCHOOLS (N = 72)	COUNTY
*	Amphitheater Unified	Amphitheater HS	Pima
		Canyon del Oro HS	Pima
	Antelope Union HSD	Antelope Union HS	Yuma
	Bisbee Unified	Bisbee HS	Cochise
*	Blue Ridge Unified	Blue Ridge HS	Navajo
	Bowie Unified	Bowie HS	Cochise
*	Buckeye UHSD	Buckeye Union HS	Maricopa
*	Camp Verde Unified	Camp Verde HS	Yavapai
*	Casa Grande UHSD	Casa Grande Union HS	Pinal
	Catalina Foothills Unified	Catalina Foothills HS	Pima
*	Cave Creek Unified	Cactus Shadows HS	Maricopa
	Chinle Unified	Chinle HS	Apache
	Chino Valley Unified	Chino Valley HS	Yavapai
		Heritage Middle School	Yavapai
*	Colorado City Unified	Colorado City HS	Mohave
	Colorado River Union HS	Mohave HS	Mohave
		River Valley HS	Mohave
*	Coolidge Unified	Coolidge HS	Pinal
	Duncan Unified	Duncan HS	Greenlee
*	Dysart Unified	Dysart HS	Maricopa
*	Flowing Wells Unified	Flowing Wells HS	Pima
	Fountain Hills Unified	Fountain Hills Jr/Sr HS	Maricopa
	Ft. Thomas Unified	Ft. Thomas HS	Graham
	Heber-Overgaard Unified	Mogollon HS	Navajo
	Indian Oasis-Baboquivari	Baboquivari HS	Pima
*	Marana Unified	Marana HS	Pima
		Mountain View HS	Pima
*	Maricopa Unified	Maricopa HS	Pinal
	Mayer Unified	Mayer HS	Yavapai
*	Mesa Unified	Carson Jr. HS	Maricopa
		Hendrix Jr. HS	Maricopa
		Kino Jr. HS	Maricopa
		Mesa Jr. HS	Maricopa
		Mountain View HS	Maricopa
		Poston Jr. HS	Maricopa
		Powell Jr. HS	Maricopa
	Miami Unified	Miami HS	Gila
*	Mohave UHSD	Kingman HS	Mohave
*	Page Unified	Page HS	Coconino
*	Paradise Valley Unified	Horizon HS	Maricopa
		Paradise Valley HS	Maricopa
		Polaris HS	Maricopa
		Shadow Mountain HS	Maricopa
*	Peoria Unified	Cactus HS	Maricopa
		Centennial HS	Maricopa
		Peoria HS	Maricopa
	Pima Unified	Pima HS	Graham
	Prescott Unified	Prescott HS	Yavapai
*	Queen Creek Unified	Queen Creek HS	Maricopa
*	Red Mesa Unified	Red Mesa HS	Apache
*	Round Valley Unified	Round Valley HS	Apache
	San Simon Unified	San Simon HS	Cochise
	Sanders Unified	Valley HS	Apache
*	Scottsdale Unified	Arcadia HS	Maricopa
		Coronado HS	Maricopa
		Saguaro HS	Maricopa
*	Sierra Vista Unified	Buena HS	Cochise
*	St. David Unified	St. David HS	Cochise
*	St. Johns Unified	St. Johns HS	Apache
*	Sunnyside Unified	Desert View HS	Pima
		Sunnyside HS	Pima
*	Tuba City Unified	Tuba City HS	Coconino
*	Tucson Unified	Catalina HS	Pima
		Sabino HS	Pima
		Santa Rita HS	Pima
		Tucson Magnet HS	Pima
	Whiteriver Unified	Alchesay HS	Navajo
*	Wickenburg Unified	Wickenburg HS	Maricopa
	Willcox Unified	Willcox HS	Cochise
*	Williams Unified	Williams HS	Coconino
	Window Rock Unified	Window Rock HS	Apache
	Winslow Unified	Winslow HS	Navajo
	Young Elementary	Young Teaching HS	Gila
	* indicates districts that have received state funding		

BEST COPY AVAILABLE

Table D-2. State-Funded Districts Not Implementing Comprehensive Programs

	DISTRICT (N = 18)	COUNTY
	Agua Fria UHSD	Maricopa
*	Benson UHSD	Cochise
	Deer Valley Unified	Maricopa
**	Eloy Elementary	Pinal
	Flagstaff Unified	Coconino
*	Gilbert Unified	Maricopa
	Glendale UHSD	Maricopa
	Globe Unified	Gila
	Humboldt Unified	Yavapai
**	Pendergast Elementary	Maricopa
	Phoenix UHSD	Maricopa
	Santa Cruz UHSD	Pinal
	Show Low Unified	Navajo
	Snowflake Unified	Navajo
	Superior Unified	Pinal
	Tempe UHSD	Maricopa
	Thatcher Unified	Graham
	Valley UHSD	Cochise
* = did not respond to survey		
** = received funding; not included in survey		

Morrison Institute for Public Policy

Established in 1981 through a gift from the Morrison family of Gilbert, Arizona, Morrison Institute for Public Policy is an Arizona State University (ASU) resource for public policy research, expertise, and insight. The Institute conducts research on public policy matters, informs policy makers and the public about issues of importance to Arizona, and advises leaders on choices and actions. A center in the School of Public Affairs (College of Public Programs), Morrison Institute helps make ASU's resources accessible by bridging the gap between the worlds of scholarship and public policy.

The Institute's primary functions are to offer a variety of services to public and private sector clients and to pursue its own research agenda. Morrison Institute's services include policy research and analysis, program evaluation, strategic planning, public policy forums, and support of citizen participation in public affairs. The Institute also serves ASU's administration by conducting research pertinent to a variety of university affairs.

Morrison Institute's researchers are some of Arizona's most experienced and well-known policy analysts. Their wide-ranging experiences in the public and private sectors and in policy development at the local, state, and national levels ensure that Morrison Institute's work is balanced and realistic. The Institute's interests and expertise span such areas as education, urban growth, the environment, human services, and economic development.

The Institute's funding comes from grants and contracts from local, state, and federal agencies and private sources. State appropriations to Arizona State University and endowment income enable the Institute to conduct independent research and to provide some services *pro bono*.

Morrison Institute for Public Policy
School of Public Affairs
Arizona State University
Tempe, Arizona 85287-4405
(602) 965-4525
(602) 965-9219 (fax)

Morrison Institute for Public Policy
School of Public Affairs
Arizona State University
Tempe, Arizona 85287-4405
(602) 965-4525